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EFFECTS 0F 900 MHZ EMF ON THE ADULT RAT TESTICLE

Exposure to a 900 MHz electromagnetic field for 1 hour a day over 30 days does change the histopathology and biochemistry of the rat testis

Ersan Odacı & Cansu Özyılmaz

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Abstract

Purpose: To investigate the effect of exposure to a 900 megahertz (MHz) electromagnetic field (EMF) on the rat testicle.

Materials and methods: Twenty-four adult male rats were divided into control, sham and EMF groups. The EMF group rats were exposed to 900 MHz EMF (1 h/30 day), and

testicles were extracted at the end of the experiment. Malondialdehyde, superoxide dismutase, catalase and glutathione levels and apoptotic index and histopathological damage scores were compared.

Results: Histopathologically, EMF group rats exhibited vacuoles in seminiferous tubules basal membrane and edema in the intertubular space. Seminiferous tubule diameters and germinal epithelium thickness were both smaller, and apoptotic index was higher, in the EMF group than in the other groups. Malondialdehyde, superoxide dismutase, catalase and glutathione values in the EMF group decreased significantly compared to those of the control group.

Conclusions: The results show that exposure to 900 MHz EMF causes alterations in adult rat testicular morphology and biochemistry.

Keywords:: Testicle electromagnetic field apoptosis rat

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Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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